

**IN THE CLAIMS**

Pursuant to 37 CFR §121(c), the claim listing, including the text of the claims, will serve to replace all prior versions of the claims, in the application.

Please cancel claims 1, 12, 18, 21, 27 and 28 without prejudice or disclaimer of their subject matter,

1           1. (Currently Amended) A method for supporting mobility of a wireless local area  
2 network voice terminal using a data line, comprising:  
3           performing a probe process during association signaling between the wireless local area  
4 network voice terminal and a first access point where the wireless local area network voice  
5 terminal roams to a second access point;  
6           performing a media access control address authentication process by the wireless local  
7 area network voice terminal and the second access point;  
8           performing by a circuit interface unit, handover by using terminal information of the  
9 wireless local area network voice terminal and media access control address information of the  
10 first access point upon the re-association request of the wireless local area network voice  
11 terminal through the second access point; and  
12           performing an association signaling process after the handover by the wireless local area  
13 network voice terminal and the second access point,  
14           wherein said data line is an Integrated Services Digital Network (ISDN) line.

1           2. (Original) The method of claim 1, further comprising of transmitting by the second  
2           access point, additional information to the wireless local area network voice terminal, when the  
3           second access point receives a re-association request signal from the wireless local area network  
4           voice terminal in the step of performing the handover by the circuit interface unit.

1           3. (Original) The method of claim 2, wherein the additional information which the  
2           second access point transmits to the wireless local area network voice terminal is status  
3           information notifying whether the current status of the second access point is busy or idle.

1           4. (Original) The method of claim 1, wherein the association signaling between the  
2           wireless local area network voice terminal and the first access point in the step of performing a  
3           probe process during association signaling comprises:

4           requesting by the first access point, a call connection by transmitting a call connection  
5           setup request signal to the circuit interface unit, when the wireless local area network voice  
6           terminal requests association to the first access point;

7           transmitting by the circuit interface unit, a call connection alert signal to the first access  
8           point;

9           attempting to be associated with the wireless local area network voice terminal by the  
10          first access point, when it receives the call connection alert signal from the circuit interface unit;

11          requesting by the circuit interface unit, a call connection setup to the first access point,  
12          and also requesting by the circuit interface unit of a outcall processing to the switching system;  
13          and

14            requesting by the circuit interface unit, a channel allocation by transmitting a channel  
15 allocation request signal to the first access point.

1            5. (Original) The method of claim 1, wherein the step of performing the media access  
2 control address authentication process comprises:

3            transmitting by the wireless local area network voice terminal, a media access control  
4 authentication request signal including a media access control address to the second access point;  
5            performing authentication by using stored media access control address information by  
6 the second access point; and

7            transmitting by the second access point, a media access control authentication completion  
8 response signal to the wireless local area network voice terminal, when the wireless local area  
9 network voice terminal can be associated with the second access point as a result of  
10 authentication.

1            6. (Original) The method of claim 1, wherein the step of performing the handover by the  
2 circuit interface unit, comprises:

3            transmitting a re-association request signal including a media access control address of  
4 the first access point to the second access point by the wireless local area network voice terminal;

5            requesting handover by the second access point by transmitting media access control  
6 address information of the first access point, and media access control address information and  
7 Internet protocol address information of the wireless local area network voice terminal to the  
8 circuit interface unit;

receiving the handover request signal from the second access point by the circuit interface unit confirming whether a B channel has been allocated to the first access point; and requesting by the circuit interface unit channel, deallocation to the first access point and deallocating the allocated B channel by performing signal handover when the B channel has not been allocated to the first access point, and performing voice handover, when the B channel has been allocated to the first access point.

7. (Original) The method of claim 1, wherein the step of performing the association signaling process, comprises:

requesting by the second access point, call connection by transmitting a call connection setup request signal to the circuit interface unit, when the wireless local area network voice terminal requests association to the second access point;

transmitting a call connection alert signal to the second access point by the circuit interface unit;

attempting to be associated with the wireless local area network voice terminal by the second access point, when the second access point receives the call connection alert signal from the circuit interface unit;

requesting call connection setup to the second access point, and requesting outcall processing to the switching system by the circuit interface unit;

requesting by the circuit interface unit, a channel allocation by transmitting a channel allocation request signal to the second access point;

allocating a B channel and transmitting a success message to the wireless local area network voice terminal by the second access point; and

17            setting up a call and providing voice communication by the second access point, when  
18            the second access point receives a final response signal from the wireless local area network  
19            voice terminal.

1            8. (Original) The method of claim 1, wherein the association signaling between the  
2            wireless local area network voice terminal and the first access point in the step of performing a  
3            probe process during association signaling comprises:

4            requesting a call connection by the first access point, when the wireless local area  
5            network voice terminal requests association to the first access point;

6            attempting to be associated with the wireless local area network voice terminal by the  
7            first access point, when the first access point receives the call connection alert signal from the  
8            circuit interface unit;

9            requesting a call connection setup to the first access point by the circuit interface unit;  
10           and

11           requesting by the circuit interface unit, a channel allocation by transmitting a channel  
12           allocation request signal to the first access point.

1            9. (Original) The method of claim 8, wherein the performing of the media access control  
2            address authentication process comprises:

3            transmitting a media access control authentication request signal including a media  
4            access control address to the second access point;

5            performing authentication by using stored media access control address information; and

transmitting a media access control authentication completion response signal to the wireless local area network voice terminal, when the wireless local area network voice terminal can be associated with the second access point as a result of authentication.

10. (Original) The method of claim 9, wherein the performing of the handover, comprises:

transmitting a re-association request signal including a media access control address of the first access point to the second access point;

requesting handover by transmitting media access control address information of the first access point, and media access control address information and Internet protocol address information of the wireless local area network voice terminal to the circuit interface unit; and

receiving the handover request signal confirming whether a B channel has been allocated to the first access point.

11. (Original) The method of claim 10, wherein the performing of the association signaling process, comprises:

requesting a call connection by transmitting a call connection setup request signal to the circuit interface unit, when the wireless local area network voice terminal requests association to the second access point;

attempting to be associated with the wireless local area network voice terminal by the second access point, when the second access point receives the call connection alert signal from the circuit interface unit;

requesting call connection setup to the second access point, and requesting outcall processing to the switching system by the circuit interface unit;

requesting by the circuit interface unit, a channel allocation by transmitting a channel allocation request signal to the second access point; and

setting up a call and providing voice communication by the second access point, when the second access point receives a final response signal from the wireless local area network voice terminal.

12. (Currently Amended) A method for supporting mobility of a wireless local area network voice terminal using a data line, comprising:

performing a probe process during an active call between the wireless local area network voice terminal and a first access point where the wireless local area network voice terminal roams to a second access point;

performing a media access control address authentication process by the wireless local area network voice terminal and the second access point;

performing a handover by a circuit interface unit by using terminal information of the wireless local area network voice terminal and media access control address information of the first access point upon the re-association request of the wireless local area network voice terminal through the second access point;

performing an association signaling process after performing the handover by the wireless local area network voice terminal and the second access point; and

setting up a call and providing voice communication by the second access point after the association signaling process.

16        wherein said data line is an Integrated Services Digital Network (ISDN) line.

1            13. (Original) The method of claim 12, further comprising of transmitting additional  
2        information to the wireless local area network voice terminal by the second access point, when  
3        the second access point receives a re-association request signal from the wireless local area  
4        network voice terminal in the step of performing the handover.

1            14. (Original) The method of claim 13, wherein the additional information which the  
2        second access point transmits to the wireless local area network voice terminal is status  
3        information notifying whether the current status of the second access point is busy or idle.

1            15. (Original) The method of claim 12, wherein the step of performing the media access  
2        control address authentication process comprises:

3            transmitting a media access control authentication request signal including a media  
4        access control address to the second access point by the wireless local area network voice  
5        terminal;

6            authenticating the wireless local area network voice terminal by using stored media  
7        access control address information by the second access point; and

8            transmitting a media access control authentication completion response signal to the  
9        wireless local area network voice terminal by the second access point, when the wireless local  
10       area network voice terminal can be associated with the second access point as a result of  
11       authentication.



1           16. (Original) The method of claim 12, wherein the step of performing the handover  
2 comprises:

3           transmitting a re-association request signal including a media access control address of  
4 the first access point to the second access point by the wireless local area network voice terminal;  
5           requesting handover by the second access point by transmitting media access control  
6 address information of the first access point, and media access control address information and  
7 Internet protocol address information of the wireless local area network voice terminal to the  
8 circuit interface unit;

9           receiving the handover request signal from the second access point confirming by the  
10 circuit interface unit whether a B channel has been allocated to the first access point; and

11          requesting channel deallocation to the first access point and deallocating the allocated B  
12 channel by the circuit interface unit by performing signal handover when the B channel has not  
13 been allocated to the first access point, and performing voice handover, when the B channel has  
14 been allocated to the first access point.

1           17. (Original) The method of claim 12, wherein the step of performing the association  
2 signaling process comprises:

3           requesting call connection by transmitting a call connection setup request signal to the  
4 circuit interface unit by the second access point, when the wireless local area network voice  
5 terminal requests association to the second access point;

6           transmitting a call connection alert signal to the second access point by the circuit  
7 interface unit;

attempting to be associated with the wireless local area network voice terminal by the second access point, when it receives the call connection alert signal from the circuit interface unit;

requesting call connection setup to the second access point and requesting outcall processing to the switching system by the circuit interface unit;

requesting channel allocation by transmitting a channel allocation request signal to the second access point by the circuit interface unit;

allocating a B channel and transmitting a success message to the wireless local area network voice terminal by the second access point; and

setting up a call and providing voice communication by the second access point, when the second access point receives a final response signal from the wireless local area network voice terminal.

18. (Currently Amended) An apparatus for supporting mobility of a wireless local area network voice terminal using a data line, comprising:

a plurality of access points including a first and second access points;

the wireless local area network voice terminal roams to the second access point and performs a probe process during association signaling between the wireless local area network voice terminal and the first access point, the wireless local area network voice terminal and the second access point perform a media access control address authentication process; and

a circuit interface unit performs handover by using terminal information of the wireless local area network voice terminal and media access control address information of the first access point upon the re-association request of the wireless local area network voice terminal

11 through the second access point, the wireless local area network voice terminal and the second  
12 access point perform an association signaling process after the handover,

13 wherein said data line is an Integrated Services Digital Network (ISDN) line.

1 19. (Original) The method of claim 18, wherein the second access point transmits  
2 additional information to the wireless local area network voice terminal, when the second access  
3 point receives a re-association request signal from the wireless local area network voice terminal  
4 in the step of performing the handover by the circuit interface unit.

1 20. (Original) The method of claim 19, wherein the additional information which the  
2 second access point transmits to the wireless local area network voice terminal is status  
3 information notifying whether the current status of the second access point is busy or idle.

1 21. (Currently Amended) A method for communicating over a data line, comprising:  
2 performing a probe process during an active call between a terminal and a first access  
3 point where the voice terminal roams to a second access point;

4 performing a media access control address authentication process by the terminal and the  
5 second access point;

6 performing a handover by an interface unit by using terminal information of the terminal  
7 and media access control address information of the first access point upon the re-association  
8 request of the wireless local area network voice terminal through the second access point;

9 performing an association signaling process after performing the handover by the  
10 terminal and the second access point; and

11            setting up a call and providing voice communication by the second access point after the  
12            association signaling process,

13            wherein said data line is an Integrated Services Digital Network (ISDN) line.

1            22. (Original) The method of claim 21, further comprising of transmitting additional  
2            information to the terminal by the second access point, when the second access point receives a  
3            re-association request signal from the terminal in the step of performing the handover.

1            23. (Original) The method of claim 22, wherein the additional information which the  
2            second access point transmits to the terminal is status information notifying whether the current  
3            status of the second access point is busy or idle.

1            24. (Original) The method of claim 23, wherein the performing of the media access  
2            control address authentication process comprises:

3            transmitting a media access control authentication request signal including a media  
4            access control address to the second access point by terminal;

5            authenticating the terminal by using stored media access control address information by  
6            the second access point; and

7            transmitting a media access control authentication completion response signal to the  
8            terminal by the second access point, when the wireless local area network voice terminal can be  
9            associated with the second access point as a result of authentication.

1           25. (Original) The method of claim 24, wherein the performing of the handover  
2 comprises:

3           transmitting a re-association request signal including a media access control address of  
4 the first access point to the second access point by the terminal;

5           requesting handover by the second access point by transmitting media access control  
6 address information of the first access point;

7           receiving the handover request signal from the second access point confirming by the  
8 interface unit whether a first channel has been allocated to the first access point; and

9           requesting channel deallocation to the first access point and deallocating the allocated  
10 first channel by the interface unit by performing signal handover when the first channel has not  
11 been allocated to the first access point, and performing voice handover, when the first channel  
12 has been allocated to the first access point.

1           26. (Original) The method of claim 25, wherein the performing of the association  
2 signaling process comprises:

3           requesting call connection by transmitting a call connection setup request signal to the  
4 interface unit by the second access point, when the wireless local area network voice terminal  
5 requests association to the second access point;

6           transmitting a call connection alert signal to the second access point by the interface unit;

7           attempting to be associated with the terminal by the second access point, when the second  
8 access point receives the call connection alert signal from the interface unit;

9           requesting call connection setup to the second access point and requesting outcall  
10 processing to the switching system by the interface unit;

requesting channel allocation by transmitting a channel allocation request signal to the second access point by the interface unit;

allocating the first channel and transmitting a success message to the terminal by the second access point; and

setting up a call and providing voice communication by the second access point, when the second access point receives a final response signal from the terminal.

27. (Currently Amended) A computer program for supporting mobility of a wireless local area network voice terminal using a data line embedded on a computer-readable medium having computer-executable instructions for performing a method and executable by a computer, said computer program comprising the steps of: ,comprising:

performing a probe process during an active call between a terminal and a first access point where the voice terminal roams to a second access point;

performing a media access control address authentication process by the terminal and the second access point;

performing a handover by an interface unit by using terminal information of the terminal and media access control address information of the first access point upon the re-association request of the wireless local area network voice terminal through the second access point;

performing an association signaling process after performing the handover by the terminal and the second access point; and

setting up a call and providing voice communication by the second access point after the association signaling process,

wherein said data line is an Integrated Services Digital Network (ISDN) line.

1           28.   (Currently Amended) A computer program for supporting mobility of a wireless  
2 local area network voice terminal using a data line embedded on a computer-readable medium  
3 having ~~stored thereon~~ a data structure, said data structure comprising:

4           a first field containing data representing performing a probe process during association  
5 signaling between the wireless local area network voice terminal and a first access point where  
6 the wireless local area network voice terminal roams to a second access point;

7           a second field containing data representing performing a media access control address  
8 authentication process by the wireless local area network voice terminal and the second access  
9 point;

10          a third field containing data representing performing by a circuit interface unit, handover  
11 by using terminal information of the wireless local area network voice terminal and media access  
12 control address information of the first access point upon the re-association request of the  
13 wireless local area network voice terminal through the second access point; and

14          a fourth field containing data representing performing an association signaling process  
15 after the handover by the wireless local area network voice terminal and the second access point,

16          wherein said data line is an Integrated Services Digital Network (ISDN) line.